CASTLEMAINE NATURALIST 81

July '83

Eriostemon verrucosus
'Fairy wax flower'
'Bendigo wax flower'

Snakes

By Terry Collins

Snakes are as much a part of our Outback as kangaroos and emus but few people are aware of the diversity of the Australian species; and the important part they play in our environment. They are the largest group of living reptiles after lizards; In Australia they comprise about 147 species, or about 27% of the Continent's reptiles. The exact origin of snakes is still in doubt but it is thought they evolved from primitive burrowing lizards between 100 and 150 million years ago during the late Jurrasic and early Cretaceous periods of the Mesozoic Era - the age of the Dinosaurs. There are fossil records of primitive snakes extending back about 120 million years. However, the most popular current theories of snake evolution are that they evolved from lizards like the Monitor or Goanna lizards or the rare Earless Monitors, the Lanthanotids of Borneo. Certainly modern snakes share some features with these lizards. All snakes have long forked (bifid) tongues, with which they sense their environment. The tongue picks up minute molecules in the air produced by surrounding organisms. These molecules are then transferred to a special gland in the roof of the mouth called Jacobson's organ. This acts as a combined smell and taste organ, and provides the snake with much information about its environment and other animals active in it.

The bifid tongue is an easy way to distinguish a snake from a legless lizard which has a broad fleshy tongue. Also, no snakes have external ears or middle ear cavities, and so do not have a normal sense of hearing. They do, however, have sensitive nerves in the scales, especially on the belly so that they are very aware of vibrations transmitted through the ground. Most snakes have broad belly scales called 'ventrals' which span their entire undersurface. The exceptions to this are the primitive burrowing snakes such as the Blind snakes.

In most snakes the tail is short compared to the body and snakes cannot voluntarily 'drop' their tail as do some lizards. The scales are fused into a transparent scale over the eye , so that snakes cannot close their eyes. This scale, along with the rest of the outer surface of the skin, is shed periodically to allow for growth and is called 'sloughing'.

The internal organs of snakes are mostly paired, like other reptiles, but some organs have one of the pair much reduced in size. This allows the snake to accomodate all its organs within its compact, elongated form. In most snakes one lung is reduced and the other is large and very elongated, sometimes extending for more than a third of the reptile's length.

All snakes have lost external limbs for locomotion, including all vestiges of upper limbs or shoulder girdle. However, some primitive forms still have the remnants of the pelvid girdle and lower limbs. These can be seen as tiny spurs just in front of the vent, or cloaca (the uro-genital opening of all snakes and lizards.

to be continued

EPPALOCK OUTING

The trip to Eppalock to see the glaciated pavements and tillite from an ancient glacier proved to be extremely enjoyable and quite facinating. Talk of Millions of years and an iceshelf in the area was enough to boggle the mind, but all sorts of unassociated rocks, on the shore and still being washed out of soil dropped by a rapidly melting glacier aeons ago, convinced us that Eric Wilkinson and Frank Robins knew their geology.

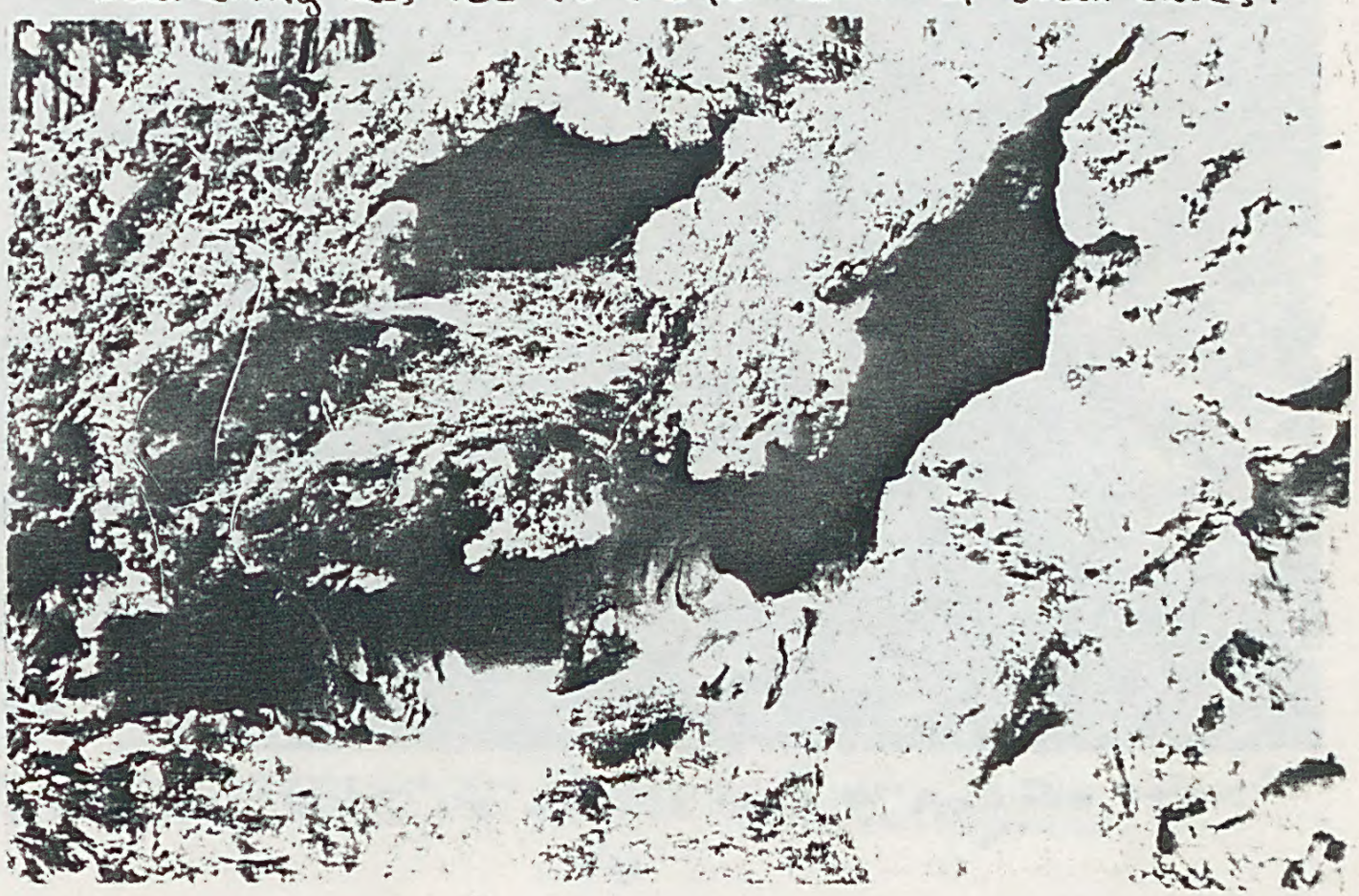
As we walked along the shore at Wild Duck Creek, Eric put names to a number of different rock specimens that we showed him. Much is the local sandstone, but there were many others, porphories, granites, conglomerates among them, which certainly don't come from that area, but from further south, showing the south-north direction of the glacial flow. One specimen that Eric pointed out was a breccia which is only known elsewhere from a mountain in Tasmania.

We went around to the Pavement near Derinal later. This one is usually well below the water line, and is quite

IRISHTOWN

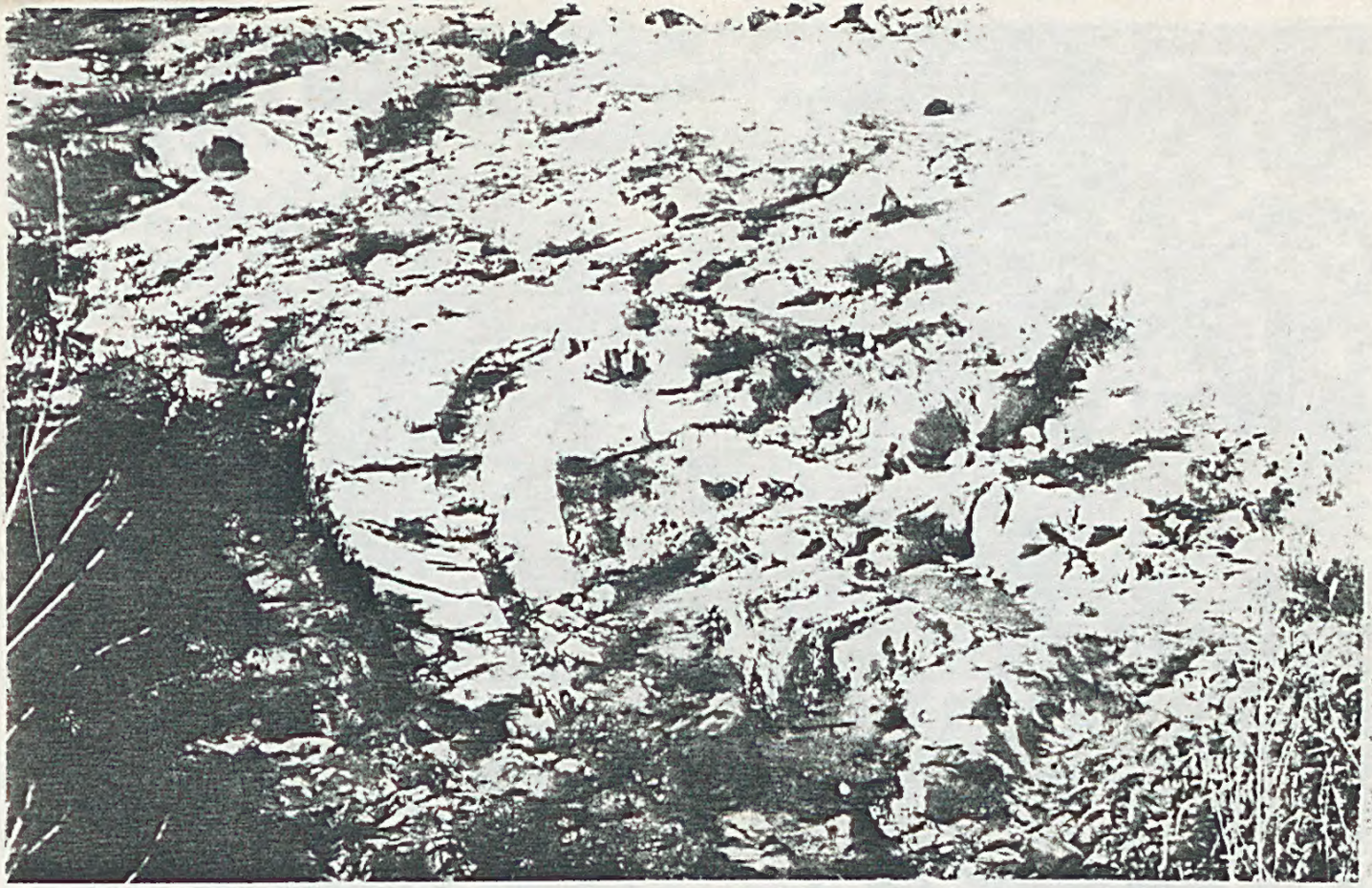
E.P.

Some of the rock layers are resistant to erosion, to help make a rather rugged landscape.
ABOVE Resistant Rocks on a ridge BELOW Differential weathering has led to the formation of small caves.



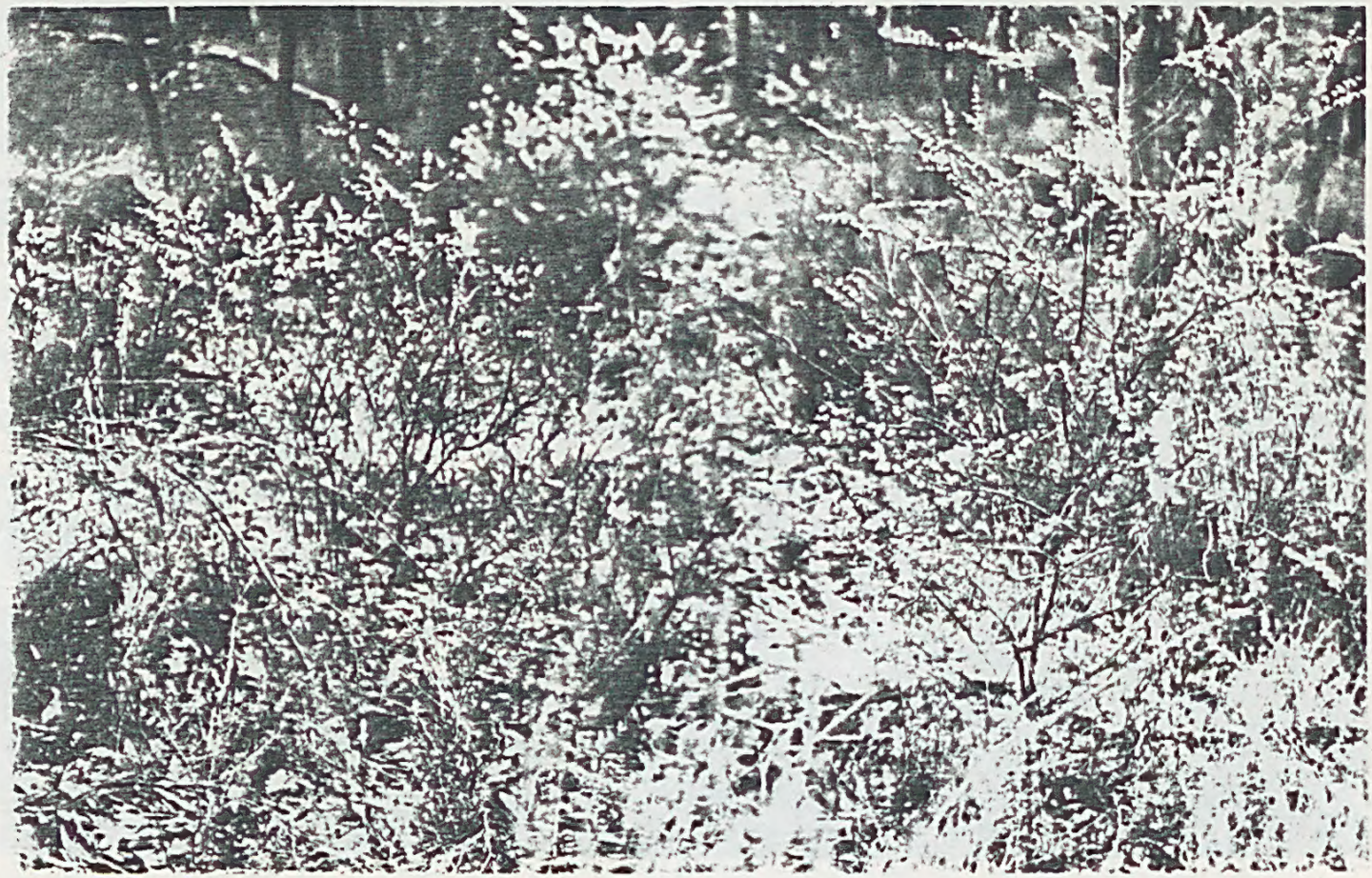
One of the "best" examples of sheet erosion can be seen at Murdering Flat. All of the topsoil has been lost to show the now vertical rock layers.

Another example of sheet erosion at Murdering Flat.



A fine example of folding at Murdering flat. Horizontal exposures such as this are uncommon.

The golden wattles in the foreground were killed by the 1982 frosts. Notice the erosion in the background.



Sticky Boronia and Shrub Violet are each found in only two localities near Castlemaine. They grow together at Trishtown.
ABOVE Sticky Boronia in flower.
BELOW A disused water race

A Post-Drought Report from Barkers Creek

from Lorna Grant

Since the end of the drought the Kangaroos which have been around for months have left the pasture alone and gone back to the bush.

The Pincushion Hakea in the garden has been very popular with the honeyeaters - Brown-headed, White-plumed, White-eared, New Holland, Yellow-faced, and of course, the ever-present Spinebill. The Grevilleas have their usual customers, too.

One male wren has had a full coat of colours for a few weeks, but there's no sign yet of the other males changing.

I've seen two large flocks of corellasflying east in the evening during the second week of June.

I have been watching twobeautiful Eastern rosellas through the window; one climbing a light pole, the other one in a Cootamundra wattle. There are also several immature Crimson rosellas feeding on something in the grass.

The Pied currawongs are still with us, though, thank goodness, they are quiet while in the garden. One has, at last, managed to find a way to use the bird feeder - so has our resident magpie.

The magpie's method is to hover and make a swift jab. It doesnt always work, but the suet is disappearing- fast! The little birds still find something for themselves, though.

Flowers starting to appear-
Golden Wattle (Lorna Grant)
Grevillea alpina (Ern Perkins)
Little stars (C.H.S. Bushwalkers)
Tall greenhood (Rita Mills)
Cootamundra wattle (20 June, High School)
One lone wax flower (C,H,S, Bushwalkers)

And have you noticed how the Oxalis is flourishing this year? It seems to be growing bigger, better and more profusely after the drought. Have you noticed any other weeds that seem to be flourishing after the drought?

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from P. 2

facinating, having the pebbles still embedded in the rock at the end of the striation they were forming when the ice melted. After a steep (and a little bit scarey for some!) climb up the headland we enjoyed a cuppa while watching some pelicans on the lake, then headed back home via Mia-Mia, with a new realization of the significance of the rocks dotted about on the hillsides.

Thanks Eric and Frank.

CLUB PROGRAM

Meetings

JULY

Fri. 8 Bill Flenje, of Bendigo, Bird slides and tapes. High School, Lawson Parade.

Thurs 28
Committee, Ed. Centre.

AUGUST

Fri 12. Prof. Turner

Thurs 25, Committee

SEPTEMBER

Fri. 19 Mr Bill Vines

Outings

JULY

Sat. 9 Campbells Creek water wheel. Leader Terry Collins. Leave S.E.C. building at 1.30pm

AUGUST

Sat 13. Guildford birds and mineral springs. Leader Berris Perry.

SEPTEMBER 74n on the Maldon Railway line. Sat 10th,

The all day walk will also be held in September and will be from the flower reserve on the Elphinstone ridge road to the Monk. Exact date to be decided.

Committee

President	Mr G. Broadway	72 2513
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Editor	Mrs R Mills	

Articles for the Magazine may be left at Tonks Bros.

from 'New Scientist' 27 Oct '77 (extract)

Faced with the choice of being eaten alive or losing a leg, most of us would chose the latter, albiet gruesome, alternative. The Harvestman spider (Opiliones) most certainly would, because a standard part of his repetoire when confronted with a predator is to fling a leg to the beast and make off. The spider after all has another seven to go, and the so-called autotomy of one legserves the same purpose as the tails of some lizards; it provides a distraction to the enemy.

A solitary spider leg may not seem like much of a distraction at first sight. But the Harvestman's cast-offs begin to twitch and wriggle as soon as they are detached, and these movements aren't random death-throes, but an ordered and regular sequence.